

Remarks

Claims 1-7, 9-11 and 13 remain in the application. Claims 8 and 12 were previously canceled without prejudice. No new matter has been added.

Claim Rejections -- 35 U.S.C. 103

Claims 1-7, 9-11 and 13 were rejected under 35 U.S.C. 103 as being unpatentable over Bare (US Patent No. 6,947,384) in view of Augart (US Patent No. 6,778,524). Applicant hereby traverses this rejection.

Claim 1

Claim 1 recites as follows:

1. A method of automated path tracing from an original mesh switch through a switching mesh to a specified destination, the method comprising:
building a mesh traceroute packet to the specified destination;
transmitting the mesh traceroute packet via an exit port associated
with the specified destination; and
receiving the mesh traceroute packet as returned,
wherein the mesh traceroute packet as returned includes a plurality
of hop entries providing a path trace from the original mesh
switch through the switching mesh to the specified
destination, each hop entry including a hop media access
(MAC) address, a hop in-port, and a hop out-port.

I. THE CITATION TO COLUMN 9, LINES 15-20 AND FIGURE 1 OF BARE DOES NOT DISCLOSE “A METHOD OF AUTOMATED PATH TRACING FROM AN ORIGINAL MESH SWITCH”

Claim 1 recites “A method of automatic path tracing from an original mesh switch though a switching mesh to a specified destination” The latest office action cites to column 9, lines 15-20 of Bare against this claim language.

Applicants respectfully submits that this citation does not disclose this claim language.

Column 9, lines 15-20 of Bare states as follows.

FIG. 1 depicts a simple example of a meshed switch topology. In this example, if Host 100 sends out broadcast packets to find Host 104, the broadcasts will very quickly start **looping and duplicating** as the broadcasts are repeated out each port. This broadcast storm is **prevented with spanning-tree protocol** by **shutting down all but one path through this network**.

(Emphasis added.)

As seen above, this citation to Bare discloses that looping and duplicating **prevents** sending out broadcast packets to find Host 104. Instead, this citation discloses using **spanning-tree protocol** which **shuts down all but one path through the network**. Hence, this citation teaches using spanning tree protocol, in which a single path through the network is already known, and does not disclose “A method of automatic path tracing from an original mesh switch though a switching mesh to a specified destination”

For at least this reason, applicants respectfully submit that the rejection of claim 1 is overcome. If this rejection is maintained, applicants respectfully request that the Examiner identify precisely how the use of spanning-tree protocol discloses a method of automatic path tracing.

II. THE CITATION TO COLUMN 9, LINES 44-47 AND FIGURE 1 OF BARE DOES NOT DISCLOSE “BUILDING A MESH TRACEROUTE PACKET TO THE SPECIFIED DESTINATION”

Claim 1 recites “... the method comprising: building a mesh traceroute packet to the specified destination” The latest office action cites to column 9, lines 44-47 of Bare against this claim limitation. Applicants respectfully submits that this citation does not disclose this claim limitation.

Column 9, lines 44-47 of Bare states as follows.

... Unicast packets with an unknown destination MAC address are handled with a **MAC address discovery procedure** and are not broadcast through the switch domain.

(Emphasis added.)

As seen above, this citation to Bare discloses handling “Unicast packets with an unknown destination MAC address” with a “MAC address discovery procedure”. However, applicants respectfully submit that such a procedure merely **discovers a MAC address**, and does not **trace a specific route** through specified ports of various devices in the mesh to the destination.

For at least this reason, applicants respectfully submit that the rejection of claim 1 is overcome. If this rejection is maintained, applicants respectfully request that the Examiner identify precisely how handling “Unicast packets with an unknown destination MAC address” with a “MAC address discovery procedure” discloses building a traceroute packet.

III. THE CITATION TO COLUMN 12, LINES 33-48 AND FIGURE 16 OF BARE DOES NOT DISCLOSE “TRANSMITTING THE MESH TRACEROUTE PACKET ... AND RECEIVING THE MESH TRACEROUTE PACKET AS RETURNED”

Claim 1 recites “transmitting the mesh traceroute packet ... and receiving the mesh traceroute packet as returned”. The latest office action cites to column 12, lines 33-58 of Bare against these claim limitations. Applicants respectfully submits that this citation does not disclose these claim limitations.

Column 12, lines 33-58 of Bare states as follows.

maintain tables (under control of CPU 3202) which direct packets for particular destination MAC addresses to a selected port or ports.

drop a received packet directed to a specific destination MAC address in accordance with information entered in the addressing table (alternatively, the MAC address could be removed from the addressing table so that the packet will be passed to CPU 3202 and discarded there). This feature is needed when packets must be sent to the “bit bucket” when a new path is being created after a link failure.

receive a load balance protocol packet with a specific source MAC address to be received on one port and forwarded to another specified port using the same source MAC address (e.g., for load balance protocol cost packets and associated ACKs).

maintain a broadcast path (under control of CPU 3202) for a given MAC address, however, the broadcast path for all MAC addresses from a given edge switch can use the same broadcast path. Preferably this pruned tree path is maintained as a bit mask field with a bit representing each switch in the pruned tree path and the mask may be the same for all MAC addresses from a given switch.

pass to CPU 3202 any received packet from and unknown source MAC address.

As seen above, applicants respectfully submit that this citation to Bare does not disclose “transmitting the mesh **traceroute** packet … and receiving the mesh **traceroute** packet as returned”.

For at least this reason, applicants respectfully submit that the rejection of claim 1 is overcome. If this rejection is maintained, applicants respectfully request that the Examiner identify precisely where and how the above citation discloses these claim limitations.

IV. NO CITATION IS GIVEN IN REGARDS TO THE CLAIM LIMITATION "WHEREIN THE MESH TRACEROUTE PACKET AS RETURNED INCLUDES A PLURALITY OF HOP ENTRIES PROVIDING A PATH TRACE FROM THE ORIGINAL MESH SWITCH THROUGH THE SWITCHING MESH TO THE SPECIFIED DESTINATION"

Claim 1 recites "wherein the mesh traceroute packet as returned includes a plurality of hop entries providing a path trace from the original mesh switch through the switching mesh to the specified destination". The latest office action provides no citation against this claim limitation. (See page 4 of the latest office action.)

For at least this reason, applicants respectfully submit that the rejection of claim 1 is overcome. If this rejection is maintained, applicants respectfully request that the Examiner identify a citation or other specific rejection against this claim limitation.

V. THE CITATION TO COLUMN 7, LINES 13-20, COLUMN 8, LINES 48-55 AND FIGURE 1 OF AUGART DOES NOT DISCLOSE "EACH HOP ENTRY INCLUDING A HOP MEDIA ACCESS (MAC) ADDRESS, A HOP IN-PORT, AND A HOP OUT-PORT"

Claim 1 recites "each hop entry including a hop media access (MAC) address, a hop in-port, and a hop out-port." The latest office action cites to column 7, lines 13-20, column 8, lines 48-55 and Figure 1 of Augart against these claim limitations. Applicants respectfully submits that this citation does not disclose these claim limitations.

Column 7, lines 13-20 of Augart states as follows.

In step 148 , the host computer evaluates the TTL field of the request **to estimate how many hops the request has taken** to arrive at the host. Preferably, this is accomplished by subtracting the TTL value of the received packet from an assumed initial TTL value for the packet. The

TTL field has a maximum value of 255, and most applications set the TTL field to this maximum value so that a packet will make 255 hops before a Time Exceeded packet is returned.

(Emphasis added.)

As seen above, applicants respectfully submit that this citation to Augart discloses **estimating how many hops a request has taken by subtracting TTL (time to live) values**. Hence, clearly, this citation does not teach the claim limitation of “each hop entry including a hop media access (MAC) address, a hop in-port, and a hop out-port.” No such **hop entries, hop in-ports, or hop out-ports** are disclosed in the citation.

Column 8, lines 48-55 of Augart states as follows.

... However, in the present invention, it is generally only desirable to identify the router or exchange point closest to the requestor. Accordingly, **it typically will be preferable to send probe packets having TTL values that are within a few hops (such as any integer within a range of approximately 1 to 7) of the number of hops taken by the request packet.** Moreover, the order of transmitting such probe packets preferably is

(Emphasis added.)

As seen above, applicants respectfully submit that this citation to Augart discloses **sending probe packet having TTL values that are within a few hops of the number of hops taken by the request packet**. Hence, clearly, this citation does not teach the claim limitation of “each hop entry including a hop media access (MAC) address, a hop in-port, and a hop out-port.” No such **hop entries, hop in-ports, or hop out-ports** are disclosed in the citation.

Figure 1 of Augart also does not teach the claim limitation of “each hop entry including a hop media access (MAC) address, a hop in-port, and a hop out-port.”

For at least this reason, applicants respectfully submit that the rejection of claim 1 is overcome. If this rejection is maintained, applicants respectfully request that the Examiner identify precisely where and how the above citations disclose these claim limitations.

Other claims

Claims 2-7 depend from claim 1. Therefore, applicants respectfully submit that claims 2-7 also overcome this rejection for at least the same reasons discussed above in relation to claim 1.

Device claim 9 recites similar limitations as method claim 1. Therefore, applicants respectfully submit that claim 9 overcomes this rejection for similar reasons as discussed above.

Claim 10 depends from claim 9. Therefore, applicants respectfully submit that claim 10 also overcomes this rejection for at least the same reasons discussed above in relation to claim 9.

Claim 11 recites similar limitations as claim 1. Therefore, applicants respectfully submit that claim 11 overcomes this rejection for similar reasons as discussed above.

Claim 13 depends from claim 11. Therefore, applicants respectfully submit that claim 13 also overcomes this rejection for at least the same reasons discussed above in relation to claim 11.

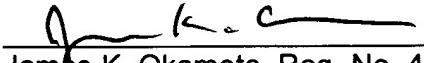
Conclusion

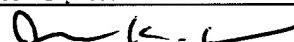
For the above-discussed reasons, applicant believes that the pending claims overcome their rejections. Favorable action is respectfully requested.

If for any reason an insufficient fee has been paid, the Commissioner is hereby authorized to charge the insufficiency to Deposit Account No. 08-2025.

Respectfully Submitted,

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